

IN THE SPECIFICATION:

On page 1, beginning at line 2, please add the following new paragraph and headings:

CROSS-REFERENCE TO RELATED APPLICATION

This application is the U.S. National Stage of International Application Number PCT/IB02/02160 filed June 12, 2002 and published in English December 24, 2003 under International Publication Number WO 03/107165A1.

BACKGROUND OF THE INVENTION

1. Technical Field

On page 1, line 7, please add the following heading:

2. Discussion of Related Art

On page 1, please amend the paragraphs beginning at line 16 through line 28 as follows:

The number of device applications and device functions provided by mobile communication devices to the users increase rapidly with each generation. The increasing number of device applications and device functions result from the increasing capabilities of the hardware implemented in the mobile communication devices and the demands of the user. Of course, an increasing number of device applications and device functions ~~result~~result in parallel in a more complex and more sophisticated handling of the total mobile communication device.

An appropriate design of the mobile communication ~~devices~~device is a great challenge to the mobile communication device manufacturer, since partial contradictory requirements have to be fulfilled. On the one hand, the device applications and device functions ~~shall~~should be accessed ~~fast~~quickly and in an easily understandable fashion. On the other hand, the number of input means,

especially the number of keys, is limited in order to realize a mobile communication device design of small size and low weight as well as not to confuse users due to a too high number of keys.

On page 2, prior to line 1, please add the following new heading and amend the paragraph beginning on line 2 as follows:

DISCLOSURE OF INVENTION

The object of the invention is to provide a mobile communication device having a keyboard and a method for controlling the operation of a keyboard of a mobile communication device. The ~~presented~~inventive keyboard offers an improved usability to a user combined with lower implementation costs for the manufacturer of the device. These improvements are obtained by advantageous double assignments of keys and an application adapted operation mode of the keyboard.

On page 2, please amend the paragraphs beginning at line 16 through line 36 as follows:

The objects of the invention are attained by a mobile communication device and a method for inputting alphanumeric text which are characterized by what is disclosed in detail below, ~~claimed in the accompanying independent claims~~. Further embodiments of the invention are the subject of further disclosure, ~~the corresponding dependent claims~~.

According to an embodiment of the invention, a mobile communication device comprises a set of keys. The set of keys is arranged to form a keyboard for entering alphanumeric text. The keys of the first set of keys each have ~~first~~ assignments, i.e. the keys have assigned letters and/or symbols to be entered by a user by operation of the respective keys. At least a subset of keys of the total set of keys of the keyboard is arranged in a pre-determined arrangement. The keys of the subset of keys each have additional second assignments, i.e. the keys have assigned letters, numbers and/or symbols to be entered by a user by operation of the respective keys. A plurality of applications ~~is comprised by~~ are included in the mobile communication device and executed thereon.

Further, a pre-determined portion of keys is provided to the user. This portion of keys comprises a first and a second selection of keys. The first selection of keys is selected from the keys of the subset of keys having second assignments. The second selection of keys is selected from the keys of the first set of keys having ~~first~~ assignments. The keys of the first selection allow a user to enter numbers and telephone number related symbols, whereas the keys of the second selection allow a user to enter control letters. The control letters have certain pre-defined control functions in combination with telephone numbers.

On page 6, please add the following new heading prior to line 5:

BRIEF DESCRIPTION OF THE DRAWINGS

On page 6, please add the following new heading prior to line 15:

BEST MODE FOR CARRYING OUT THE INVENTION

On page 6, please amend the paragraphs beginning at line 33 through page 7, line 7 as follows:

The depicted keyboard is composed of two parts 20 and 21 both arranged adjacent to a centrally arranged display 11. The inventive concept shall not be limited to a keyboard divided into two parts 20 and 21, for instance the display may also be arranged above the keyboard being one single piece. Each part 20 or 21 of the keyboard is composed of three stacked rows having five single keys each. Preferably, the keys of a row are aligned, but the keys of a row can also be arranged along a curved line.

The keys of the keyboard have at least one assignment or designation in accordance with their respective input functions, respectively. Here, the first assignments relate to the entering of character symbols correspondingly printed on the keys. Further, three additional keys 31, 33 and 41 are disposed below the part 20 and three additional keys ~~31, 33 and 41~~ 30, 32 and 40 are disposed below the part 21, respectively.

On page 7, please amend the paragraph beginning at line 17 as follows:

A subset of the depicted keys of the keyboard have second assignments indicated by printings arranged above the respective keys and indicating second input functions of these keys. Substantially, the second input functions relate to the entering of numbers and symbols and are operable in combination with a corresponding input mode setting which when valid causes valid the second input function of these keys to be operable. The keys having the first assignments "Z", "U" and "I" have additionally the second assignment "1", "2" and "3", the keys having the first assignments "H", "J" and "K" have additionally the second assignment "4", "5" and "6" and the keys having the first assignments "N", "M" and "," have additionally the second assignment "7", "8" and "9". The keys having the second assignments "1" to "9" form a rectangular number block arranged in three straight columns within the three rows of the keyboard. The second assignment "0" is assigned to the "SPACE" key 30 arranged asymmetrically to the rectangular number block.

On page 8, please amend the paragraph beginning at line 4 as follows:

At least a selection of the keys designated for entering telephone numbers, i.e. the keys having the second assignments "0" to "9", "#", "+" and "*", can be colored different to differently from the remaining keys in order to heighten the visible differentiation of these keys from the keyboard. Further, the "CHR" key for switching to the an input mode may be ~~color~~ colored the same in order to illustrate the combined operation. Alternatively, the printing of the second assignment may be colored different differently from the printing of the first assignment for heightening the visible differentiation.

On page 8, please amend the paragraphs beginning at line 25 through page 9, line 12 as follows:

The keys of the keyboard have at least one assignment or designation in accordance with their respective input functions, respectively. Here, the first assignments relate to the entering of character symbols correspondingly printed on the keys. Further, three additional keys 31, 33 and 41 are disposed below the part 22 and three additional keys ~~31, 33 and 41~~ 30, 32, and 40 are disposed below the part 23, respectively.

The keys 32 and 33 are both "SHIFT" keys (abbreviates to "SHFT") employed for switching the input of characters in-between lower-case and upper-case

representation, the keys 30 and 31 are both "SPACE" keys (abbreviates to "SPC") for inputting a blank and the keys 40 and 41 are both "CHARACTER" keys (abbreviates to "CHR") for switching an input mode the employment of which will be described below. The additional keys 30, 40 and 32 and the ~~are the additional~~ keys 31, 41 and 33 arranged symmetrically to the middle axis of the mobile communication device or the display 11, respectively, to be operable either right-handed or left-handed.

A subset of the depicted keys of the keyboard have second assignments indicated by printings arranged above the respective keys and indicating second input functions of these keys. Substantially, the second input functions relate to the entering of numbers and symbols and are operable in combination with a corresponding input mode setting which when set valid makes the second input function of these keys operative. The keys having the first assignments "E", "R" and "T" have additionally the second assignment "1", "2" and "3", the keys having the first assignments "D", "F" and "G" have additionally the second assignment "4", "5" and "6" and the keys having the first assignments "C", "V" and "B" have additionally the second assignment "7", "8" and "9". The keys having the second assignments "1" to "9" form a rectangular number block arranged in three straight columns within the three rows of the keyboard. The second assignment "0" is assigned to the "SPACE" key 31 arranged asymmetrically to the rectangular number block.

On page 9, please amend the paragraph beginning at line 26 as follows:

At least a selection of the keys designated for entering telephone numbers, i.e. the keys having the second assignments "0" to "9", "#", "+" and "*", can be colored ~~different to~~ differently from the remaining keys in order to heighten the visible differentiation of these keys from the keyboard. Further, the "CHR" key for switching to the input mode may be ~~color~~ colored the same in order to illustrate the combined operation. Alternatively, the printing of the second assignment may be colored ~~different~~ differently from the printing of the first assignment for heightening the visible differentiation.

On page 10, please amend the paragraph beginning at line 4 as follows:

The keyboard controller 210 receives electrical signals from the keys of the mobile communications device, i.e. the keys of the keyboard and the additional keys (especially the "CHARACTER" keys 40 and 41) via a signal path S10 and generates logical signals or commands, respectively. Fig. 3 illustrates the keyboard ~~(comprising)~~~~(consisting of)~~ the parts 22 and 23) offered for left-handed use described in detail with reference to Fig. 2. The logical signals corresponds either to the first assignment or the second assignment of the keys in accordance with an input mode defining if the first or second assignment of the keys is valid.

On page 10, please amend the paragraph beginning at line 30 as follows:

Common status information, a user interface, application specific interfaces and further application related information are displayed via the display ~~driver~~driver 230 and the display 240 to the user. The display driver 230 comprises adequate means for generating graphics, text, numbers and symbols on the display.

On page 11, please amend the paragraph beginning at line 4 as follows:

The operation storage 260 allows ~~to store~~the storage of operation relevant information. The operation relevant information comprises operating mode information, in particular information about the input mode and the device operating mode. The processing unit 200 is connected to the operation storage 260 to obtain and store such information and the processing unit 200 operates in accordance with the stored information and supplies the information to components of the mobile communication device requiring operation relevant information for operating, e.g. the keyboard controller 210.

On page 11 please amend the paragraph beginning at line 27 through page 12, line 3 as follows:

During the execution of this kind of application the keyboard controller 210 is operated in a first keyboard operation mode and the keys of the mobile communication device are operated initially in a first input mode, i.e. the first assignments of the keys are initially valid. For example in case a user depresses the key "J5" (i.e. the key "J5" has the first assignment "J" and the second assignment "5") a logical signal or commands is generated in the first input mode by the keyboard controller 210 corresponding to the character "J", respectively. The user is

allowed to switch from the first input mode to a second input mode and vice versa. The switching in-between the both input modes is operable with one of the "CHARACTER" keys 40 and 41, respectively. Preferably, the operation of the key 40 ~~or 41~~ or 41 causes the toggling in-between the both input modes, respectively. Alternatively, the second input mode is active during depressing and holding of one of the keys 40 or 41 that means that the a key has to be operated simultaneously with the key 40 or 41 in order to enter the second assignment of the key. Correspondingly, in case a user depresses the key "J5" a logical signal or commands is generated in the second input mode by the keyboard controller 210 corresponding to the number "5".

On page 12, please amend the paragraph beginning at line 27 as follows:

During the input of telephone numbers, the respective telephone number receiving ~~applications switch~~ application switches the keyboard controller 210 into a second keyboard operation mode or telephone number input mode, respectively. Within this second keyboard operation mode, the mobile communication device or the keyboard controller 210 of the mobile communication device generates only logical signals on operation of valid input keys, respectively. Additionally, the keyboard controller 210 switches automatically if necessary the input mode to the first or second assignment of the valid keys. The valid input keys have the aforementioned assignments, i.e. the numbers "0" to "9", the symbols "#", "+" and "*" as well as the signs "P" and "W".

On page 13, please amend the paragraphs beginning at line 16 through page 14 line 5 as follows:

The keyboard controller 210, the keyboard detector 215, the audio unit 220, the transceiver 270, the display driver 230, the application store 250 and the operation storage 260 may be constituted by a data processing component or a hardware circuit ~~comprised by~~ within the mobile communication device. Further, the keyboard controller 210, the keyboard detector 215, the display driver 230 and the applications may be constituted by a code section for executing on the mobile communication device or the processing unit 200 containing instructions for carrying out the necessary processing operations. Moreover, keyboard controller 210, the keyboard detector 215, the audio unit 220, the transceiver 270, the display driver 230, the application store 250 and the operation storage 260 may be constituted by a portion of the mobile communication device. Additionally, the keyboard controller 210, the

keyboard detector 215, the audio unit 220, the transceiver 270, the display driver 230, the application store 250 and the operation storage 260 may be constituted by hybrid system comprising a data processing component or a hardware circuit and a code section for executing on the mobile device containing instructions for carrying out the necessary processing operations in combination with the data processing component or a hardware circuit.

It is to be understood that even though numerous characteristics and advantages of various embodiments of the present invention have been set forth in the foregoing description, together with details of the structure and functions of various embodiments of the invention, this disclosure is illustrative only, and changes may be made in detail, especially ~~in the~~ matter of the structure and arrangements of parts within the principles of the present invention to the full ~~extend~~extent indicated by the broad general meaning of the terms in which the appended claims are expressed. For example, the particular elements may vary depending on the particular application for the mobile communication device while maintaining substantially the same functionality without departing from the scope and the spirit of the present invention. Further, although the invention has been illustrated as implemented in ~~circuit block~~a circuit block diagram, those skilled in the art will recognize that the invention may be implemented in any hardware, software or hybrid systems.